

Application/Control Number: 09/695,043

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1- 24 (Cancelled)

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25. (new) A method for decomposing an organic compound contained in a fluid in a state of liquid or gas, comprising steps of:

flowing said fluid into a decomposition container provided with an excimer lamp which is composed of a discharging vessel made of a dielectric material with permeability of UV light and filled up with a filling gas, an inner electrode equipped inside an inner tube provided inside said discharging vessel and an outer electrode, and

applying a high frequency voltage from 1 to 20 MHz between the inner electrode and the outer electrode of the excimer lamp, while flowing the fluid into the decomposition container,

thereby decomposing an organic compound contained in the fluid by emission of ultraviolet light irradiated from the excimer lamp.

26. (new) A decomposition method as claimed in claim 25, wherein an organic compound is selected from flon, dioxin (polychlorinated dibenzo-para-dioxin), PCB (polychlorinated biphenyl), trichloroethylene, tetrachloroethylene, dichloromethane, tetrachloromethane, 1,2-dichloroethane, 1,1-dichloroethane, cis-1,2-dichloroethane, 1,1,1-trichloroethane, 1,3-dichloropropene and a mixture thereof.

27. (new) A decomposition method as claimed in claim 25, wherein a wave length of the UV light is 222nm or below.

28. (new) A method for decomposing said organic compound contained in a fluid in a state of liquid or gas, comprising steps of:

flowing said liquid into a decomposition container made of a metal and provided with an excimer lamp which is composed of a discharging vessel made of a dielectric material with permeability of UV light and filled up with a filling gas, an inner electrode equipped inside an inner tube provided inside said discharging vessel and an outer electrode which is a part of the decomposition container, and

applying a high frequency voltage from 1 to 20 MHz between the inner electrode and the outer electrode of the excimer lamp, while flowing the liquid into the decomposition container,

thereby decomposing an organic compound contained in the liquid by emission of ultraviolet light irradiated from the excimer lamp.

29. (new) A decomposition method as claimed in claim 28, wherein said organic compound is selected from flon, dioxin (polychlorinated dibenzo-para-dioxin), PCB (polychlorinated biphenyl), trichloroethylene, tetrachloroethylene, dichloromethane, tetrachloromethane, 1,2-dichloroethane, 1,1-dichloroethane, cis-1,2-dichloroethane, 1,1,1-trichloroethane, 1,3-dichloropropene and a mixture thereof.

30. (new) A decomposition method as claimed in claim 28, wherein a wave length of the UV light is 222nm or below.